United Nations

Framework Convention on Climate Change

FCCC/SBI/ICA/2015/TASR.1/TUN

Distr.: General
16 February 2016

English only

Summary report on the technical analysis of the first biennial update report of Tunisia submitted on 31 December 2014

In accordance with decision 2/CP.17, paragraph 41(a), Parties not included in Annex I to the Convention (non-Annex I Parties), consistent with their capabilities and the level of support provided for reporting, should submit their first biennial update report (BUR) by December 2014. The least developed country Parties and small island developing States may submit BURs at their discretion.

Further, in accordance with paragraph 58(a) of the same decision, the first round of international consultation and analysis (ICA) will be conducted for non-Annex I Parties commencing within six months of the submission of their first BURs. The process of ICA includes two steps: the technical analysis of the submitted BURs, followed by a workshop on the facilitative sharing of views under the Subsidiary Body for Implementation.

This summary report presents the results of the technical analysis of the first BUR of Tunisia undertaken by a team of technical experts in accordance with the modalities and procedures contained in the annex to decision 20/CP.19.

GE.16-02213(E)

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I. Introduction and process overview

A. Introduction

1. In accordance with decision 2/CP.17, paragraph 41(a), Parties not included in Annex I to the Convention (non-Annex I Parties), consistent with their capabilities and the level of support provided for reporting, should submit their first biennial update report (BUR) by December 2014. The least developed country Parties and small island developing States may submit BURs at their discretion. Further, in accordance with paragraph 58(a) of the same decision, the first round of international consultation and analysis (ICA) will be conducted for non-Annex I Parties commencing within six months of the submission of their first BURs. The process of ICA includes two steps: the technical analysis of the submitted BURs, resulting in a summary report for each BUR analysed, followed by a workshop on the facilitative sharing of views under the Subsidiary Body for Implementation.

2. This summary report presents the results of the technical analysis of the first BUR of Tunisia undertaken by a team of technical experts (TTE) in accordance with the provisions on the composition, modalities and procedures of the TTE under ICA contained in the annex to decision 20/CP.19.

B. Process overview

3. Tunisia submitted its first BUR on 31 December 2014.

4. The technical analysis of the BUR took place from 18 to 22 May 2015 in Bonn, Germany, and was undertaken by the following TTE, drawn from the UNFCCC roster of experts on the basis of the criteria defined in decision 20/CP.19, annex, paragraphs 2–6: Mr. Rodrigue Abourou Otogo (Consultative Group of Experts on National Communications from Parties not included in Annex I to the Convention (CGE) member from Gabon), Mr. Menouer Boughedaoui (Algeria), Ms. Patricia Grobben (CGE member from Belgium), Mr. Ghislain Hippolyte Sabin Guendehou (Benin), Mr. Ayité-Lô Ajavon (Togo) and Ms. Silke Christina (Sina) Wartmann (Germany). Mr. Abourou Otogo and Ms. Grobben were the co-leads. Ms. Sylvie Marchand and Ms. Victoria Novikova (secretariat) provided administrative support to the TTE.

5. During the technical analysis, in addition to the written exchange, through the secretariat, to provide technical clarifications on the information reported in the BUR, the TTE and Tunisia also engaged in consultation, primarily to reach a common understanding on the identification of the capacity-building needs. Following the technical analysis of the BUR, the TTE prepared and shared a draft summary report with Tunisia on 13 August 2015 for its review and comments. Tunisia, in turn, provided its feedback on the draft summary report on 13 November 2015.

6. The TTE responded to and incorporated the comments referred to in paragraph 5 above from Tunisia and finalized, in consultation with Tunisia, the summary report on 12 February 2016.

II. Technical analysis of information reported in the biennial update report

A. Scope of the technical analysis

7. The scope of the technical analysis is outlined in decision 20/CP.19, annex, paragraph 15, according to which the technical analysis aims to, without engaging in a discussion on the appropriateness of these actions, increase transparency of mitigation actions and their effects, and shall entail the following:

(a) Identification of the extent to which the elements of information listed in the ICA guidelines contained in decision 2/CP.17, annex IV, paragraph 3(a), are included in the BUR of the Party concerned (see chapter II.B);

(b) A technical analysis of the information contained in the BUR, specified in the "UNFCCC biennial update reporting guidelines for Parties not included in Annex I to the Convention" (hereinafter referred to as the UNFCCC reporting guidelines on BURs) contained in annex III to decision 2/CP.17, and any additional technical information provided by the Party concerned (see chapter II.C);

(c) Identification of, in consultation with the Party concerned, capacity-building needs related to the facilitation of reporting in accordance with annex III to decision 2/CP.17 and to the participation in ICA in accordance with annex IV to decision 2/CP.17, taking into account Article 4, paragraph 3, of the Convention (see chapter II.D).

8. The remainder of this chapter presents the results of each of the three parts of the technical analysis of Tunisia's BUR outlined in paragraph 7 above.

B. Overview of the elements of information reported

9. The elements of information referred to in paragraph 7(a) above include: the national greenhouse gas (GHG) inventory report; mitigation actions, including a description of such actions, an analysis of their impacts and the associated methodologies and assumptions, and the progress made in their implementation; information on domestic measurement, reporting and verification (MRV); and support received.

10. Further, in accordance with decision 20/CP.19, annex, paragraph 15(a), in undertaking the technical analysis of the submitted BUR, the TTE shall identify the extent to which the elements of information listed in the guidelines contained in decision 2/CP.17, annex IV, paragraph 3(a), are included in the BUR of the Party concerned. The results of this analysis are presented in tables 1, 2 and 3 below.

11. As part of its feedback on the draft summary report, Tunisia provided additional information to the TTE, including a national inventory report (NIR).

1. National greenhouse gas inventory

12. The parts of the UNFCCC reporting guidelines on BURs on reporting information on GHG emissions by sources and removals by sinks in BURs are contained in decision 2/CP.17, paragraph 41(g), and annex III, paragraphs 3–10, of the same decision. Further, as per decision 2/CP.17, annex III, paragraph 3, non-Annex I Parties should submit updates of national GHG inventories according to paragraphs 8–24 of the "Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention" as contained in the annex to decision 17/CP.8. The scope of the updates on national GHG inventories should be consistent with capacities, time constraints, data

availabilities and the level of support provided by developed country Parties for biennial update reporting.

13. Table 1 below presents results of the identification of the extent to which the elements of information on GHGs are included in the first BUR of Tunisia in accordance with the relevant parts of the UNFCCC reporting guidelines on BURs.

Table 1
Identification of the extent to which the elements of information on greenhouse gases are included in the first biennial update report of Tunisia

Decision	*Provision of the reporting guidelines*	*Yes/ Partly/No*	*Comments on the extent of the information provided*
Decision 2/CP.17, paragraph 41(g)	The first BUR shall cover, at a minimum, the inventory for the calendar year no more than four years prior to the date of the submission, or more recent years if information is available	Yes	In its first BUR, Tunisia covers the inventory for the year 2010 only. Tunisia indicated it prepared GHG inventories for the energy and industry sectors for the periods 1980–2009 and 2000–2009, respectively, but did not report them in the BUR
Decision 2/CP.17, annex III, paragraph 5	The updates of the sections on the national inventories of anthropogenic emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol should contain updated data on activity levels based on the best information available using the Revised 1996 IPCC Guidelines for National GHG Inventories, the IPCC good practice guidance and Uncertainty Management in National GHG Inventories, and the IPCC good practice guidance for LULUCF; any change to the emission factor may be made in the subsequent full national communication	Yes	Tunisia used the 2006 IPCC Guidelines
Decision 2/CP.17, annex III, paragraph 9	The inventory section of the BUR should consist of an NIR as a summary or as an update of the information contained in decision 17/CP.8, annex, chapter III (National greenhouse gas inventories), including:	Partly	
	• Table 1 (National greenhouse gas inventory of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol and greenhouse gas precursors)	Yes	The BUR contains a section on GHG inventories addressing information contained in decision 17/CP.8, annex, chapter III. It contains tables with direct and indirect emissions
	• Table 2 (National greenhouse gas inventory of anthropogenic emissions of HFCs, PFCs and SF_6)	Partly	Only HFC emissions are reported. In its review of the draft summary report, Tunisia clarified that PFCs and SF_6 emissions did not occur in 2010
Decision 2/CP.17, annex III, paragraph 6	Non-Annex I Parties are encouraged to include, as appropriate and to the extent that capacities permit, in the inventory section of the BUR:		
	• Tables included in annex 3A.2 to chapter 3 of the	NA	Tunisia used the 2006 IPCC Guidelines and reported the

Decision	*Provision of the reporting guidelines*	*Yes/ Partly/No*	*Comments on the extent of the information provided*
	IPCC good practice guidance for LULUCF		AFOLU sector
	• The sectoral report tables annexed to the Revised 1996 IPCC Guidelines	NA	Tunisia used the 2006 IPCC Guidelines
Decision 2/CP.17, annex III, paragraph 7	Each non-Annex I Party is encouraged to provide a consistent time series back to the years reported in the previous national communications	No	No time series back to the years 1994 and 2000 were reported in the first and the second national communications. During its review of the draft summary report, Tunisia provided clarification on the excluded information
Decision 2/CP.17, annex III, paragraph 8	Non-Annex I Parties that have previously reported on their national GHG inventories contained in their national communications are encouraged to submit summary information tables of inventories for previous submission years (e.g. for 1994 and 2000)	Partly	Summary information tables of inventories for the years 1994 and 2000 are not provided. Tunisia presents a table on comparison of emission/removal estimates for 1994, 2000 and 2010. However, this comparison shows estimates from inventories that were developed using different methods
Decision 2/CP.17, annex III, paragraph 10	Additional or supporting information, including sector-specific information, may be supplied in a technical annex	Yes	
Decision 17/CP.8, annex, paragraph 13	Non-Annex I Parties are encouraged to describe procedures and arrangements undertaken to collect and archive data for the preparation of national GHG inventories, as well as efforts to make this a continuous process, including information on the role of the institutions involved	No	The BUR of Tunisia does not provide a description of procedures and arrangements undertaken to collect and archive data and Tunisia's efforts to make this a continuous process. During the technical analysis, Tunisia explained that the process of establishing official institutional arrangements has not started
Decision 17/CP.8, annex, paragraph 14	Each non-Annex I Party shall, as appropriate and to the extent possible, provide in its national inventory, on a gas-by-gas basis and in units of mass, estimates of anthropogenic emissions of the following gases by sources and removals by sinks:		
	• CO_2	Yes	
	• CH_4	Yes	
	• N_2O	Yes	

Decision	*Provision of the reporting guidelines*	*Yes/ Partly/No*	*Comments on the extent of the information provided*
Decision 17/CP.8, annex, paragraph 15	Non-Annex I Parties are encouraged, as appropriate, to provide information on anthropogenic emissions by sources of HFCs, PFCs and SF_6	Partly	Only information on emissions of HFCs is provided. In its review of the draft summary report, Tunisia clarified that PFCs and SF_6 emissions did not occur in 2010
Decision 17/CP.8, annex, paragraph 19	Non-Annex I Parties should, to the extent possible, and if disaggregated data are available, report emissions from international aviation and marine bunker fuels separately in their inventories:		
	• International aviation	Yes	
	• Marine bunker fuels	Yes	
Decision 17/CP.8, annex, paragraph 16	Non-Annex I Parties are encouraged, as appropriate, to report on anthropogenic emissions by sources of other GHGs such as:		
	• CO	Yes	
	• NO_x	Yes	
	• NMVOCs	Yes	
Decision 17/CP.8, annex, paragraph 17	Other gases not controlled by the Montreal Protocol, such as SO_2, included in the Revised 1996 IPCC Guidelines, may be included at the discretion of the Parties	Yes	SO_2 emission estimates are provided in the BUR
Decision 17/CP.8, annex, paragraph 21	Non-Annex I Parties are encouraged to provide information on methodologies used in the estimation of anthropogenic emissions by sources and removals by sinks of GHGs not controlled by the Montreal Protocol, including a brief explanation of the sources of emission factors and activity data. If non-Annex I Parties estimate anthropogenic emissions and removals from country-specific sources and/or sinks that are not part of the Revised 1996 IPCC Guidelines, they should explicitly describe the source and/or sink categories, methodologies, emission factors and activity data used in their estimation of emissions, as appropriate. Parties are encouraged to identify areas where data may be further improved in future communications through capacity-building:	Partly	Tunisia reports that it used the 2006 IPCC Guidelines. However, very limited information is provided to explain how the methods and equations were used. Activity data and emission factors used are not reported. During its review of the draft summary report, Tunisia provided an NIR as an additional source of information
	• Information on methodologies used in the estimation of anthropogenic emissions by sources and removals by sinks of GHGs not controlled by the Montreal Protocol	Partly	See above
	• Explanation of the sources of emission factors	No	See above
	• Explanation of the sources of activity data	No	See above
	• If non-Annex I Parties estimate anthropogenic emissions and removals from country-specific sources and/or sinks that are not part of the Revised 1996 IPCC Guidelines, they should explicitly describe:	No	Tunisia used a country-specific method to estimate emissions from waste generated by olive oil production, but there is no information provided on the

Decision	*Provision of the reporting guidelines*	*Yes/ Partly/No*	*Comments on the extent of the information provided*
			methodology and emission factors used in the BUR. In its review of the draft summary report, Tunisia provided the NIR as an additional source of information
	○ Source and/or sink categories	No	
	○ Methodologies	No	
	○ Emission factors	No	
	○ Activity data	No	
	• Parties are encouraged to identify areas where data may be further improved in future communications through capacity-building	No	The BUR does not provide information on areas where data may be further improved through capacity-building. During the analysis, Tunisia highlighted that there is only a need to improve data archiving. In its review of the draft summary report, Tunisia referred to the NIR as an additional source of information
Decision 17/CP.8, annex, paragraph 24	Non-Annex I Parties are encouraged to provide information on the level of uncertainty associated with inventory data and their underlying assumptions, and to describe the methodologies used, if any, for estimating these uncertainties:	No	The BUR of Tunisia does not provide information on the level of uncertainty associated with the inventory data. During the technical analysis, Tunisia indicated that a comprehensive inventory document is being finalized, which includes all information on methodologies, data and assumptions used
	• Level of uncertainty associated with inventory data	No	
	• Underlying assumptions	No	
	• Methodologies used, if any, for estimating these uncertainties	No	In its review of the draft summary report, Tunisia referred to the NIR as an additional source of information

Abbreviations: AFOLU = agriculture, forestry and other land use, BUR = biennial update report, GHG = greenhouse gas, IPCC = Intergovernmental Panel on Climate Change, IPCC good practice guidance = *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories*, IPCC good practice guidance for LULUCF = *Good Practice Guidance for Land Use, Land-Use Change and Forestry*, NA = not applicable, NIR = national inventory report, NMVOC = non-methane volatile organic compound, Revised 1996 IPCC Guidelines = *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories*, 2006 IPCC Guidelines = *2006 IPCC Guidelines for National Greenhouse Gas Inventories*.

2. Mitigation actions and their effects

14. The parts of the UNFCCC reporting guidelines on BURs on reporting information on mitigation actions in the BUR are contained in decision 2/CP.17, annex III, paragraphs 11–13.

15. Tunisia has reported mitigation actions in its first BUR. Some of the mitigation actions are reported in tabular format, more specifically those actions related to nationally appropriate mitigation actions (NAMAs), while other mitigation actions are listed in the text.

16. Table 2 below present results of the identification of the extent to which the elements of information on mitigation actions are included in the first BUR of Tunisia in accordance with the relevant parts of the UNFCCC reporting guidelines on BURs.

Table 2
Identification of the extent to which the elements of information on mitigation actions are included in the first biennial update report of Tunisia

Decision	*Provision of the reporting guidelines*	*Yes/ Partly/No*	*Comments on the extent of the information provided*
Decision 2/CP.17, annex III, paragraph 12	For each mitigation action or groups of mitigation actions including, as appropriate, those listed in document FCCC/AWGLCA/2011/INF.1, developing country Parties shall provide the following information to the extent possible:		Tunisia does not report on all the mitigations actions listed in document FCCC/AWGLCA/2011/INF.1. During the technical analysis, Tunisia clarified that its energy action plan has been updated and also that it chose to include only its priority mitigation actions in its BUR. In its review of the draft summary report, Tunisia indicated the existence of updated version of the Renewable Energy and Energy Efficiency action plan
(a)	Name and description of the mitigation action, including information on the nature of the action, coverage (i.e. sectors and gases), quantitative goals and progress indicators	Partly	The descriptions of mitigation actions are provided. However, coverage in terms of gases is not specified
(b)	Information on methodologies and assumptions:		
	• Methodologies	Partly	For mitigation actions reported in tabular format, Tunisia calculated the GHG emission reduction effects by means of different scenarios (projections). It does not specify which models/methodologies were used. For mitigation actions not reported in tabular format, information on methodologies was not provided. In its review of the draft summary report, Tunisia specified that separate mitigation reports containing almost all the information requested exist
	• Assumptions	Partly	For mitigation actions reported in tabular format, some important key hypotheses underlying the scenarios

Decision	*Provision of the reporting guidelines*	*Yes/ Partly/No*	*Comments on the extent of the information provided*
			are missing, such as information on the expected evolution of the activity data. For mitigation actions not reported in tabular format, information on assumptions was not provided. In its review of the draft summary report, Tunisia specified that separate mitigation reports containing almost all the information requested exist
(c)	Objectives of the action and steps taken or envisaged to achieve that action:		
	• Objectives of the action	Yes	
	• Steps taken or envisaged to achieve that action	Yes	
(d)	Information on the progress of implementation of the mitigation actions and the underlying steps taken or envisaged, and the results achieved, such as estimated outcomes (metrics depending on type of action) and estimated emission reductions, to the extent possible:		
	• Progress of implementation of the mitigation actions	Yes	
	• Underlying steps taken or envisaged	Yes	
	• Results achieved, such as estimated outcomes (metrics depending on type of action) and estimated emission reductions, to the extent possible	Yes	
(e)	Information on international market mechanisms	Partly	Not all CDM projects (registered and/or under development), in the sectors covered by the mitigation actions reported, are mentioned in the BUR. Tunisia provided clarification on this issue during the technical analysis
Decision 2/CP.17, annex III, paragraph 13	Parties should provide information on the description of domestic measurement, reporting and verification arrangements	Partly	For mitigation actions reported in tabular format, information on the description of domestic measurement, reporting and verification arrangements was provided. For mitigation actions not reported in tabular format, this information was not provided

Abbreviations: BUR = biennial update report, CDM = clean development mechanism, GHG = greenhouse gas.

3. Finance, technology and capacity-building needs and support received

17. The parts of the UNFCCC reporting guidelines on BURs on reporting information on finance, technology and capacity-building needs and support received in the BUR are contained in decision 2/CP.17, annex III, paragraphs 14–16.

18. Table 3 below presents results of the identification of the extent to which the elements of information on finance, technology and capacity-building needs and support

received are included in the BUR of Tunisia in accordance with the relevant parts of the UNFCCC reporting guidelines on BURs.

Table 3
Identification of the extent to which the elements of information on finance, technology and capacity-building needs and support received are included in the first biennial update report of Tunisia

Decision	*Provision of the reporting guidelines*	*Yes/ Partly/No*	*Comments on the extent of the information provided*
Decision 2/CP.17, annex III, paragraph 14	Non-Annex I Parties should provide updated information on constraints and gaps, and related financial, technical and capacity-building needs:		
	• Constraints and gaps	No	Constraints and gaps (barriers, challenges and bottlenecks) encountered during the preparation of the BUR are not reported
	• Related financial, technical and capacity-building needs	Partly	No information is provided on technical needs
Decision 2/CP.17, annex III, paragraph 15	Non-Annex I Parties should also provide updated information on financial resources, technology transfer, capacity-building and technical support received from the GEF, Annex II Parties and other developed country Parties, the GCF and multilateral institutions for activities relating to climate change, including for the preparation of the current BUR	Partly	No information is provided on technology transfer and technical support received. Detailed information on capacity-building support received for all activities relating to climate change, including for the preparation of the first BUR is provided. In its review of the draft summary report, Tunisia indicated that all capacity-building activities identified include a technical support component
Decision 2/CP.17, annex III, paragraph 16	With regard to the development and transfer of technology, non-Annex I Parties should provide information on technology needs, which must be nationally determined, and technology support received:		
	• Technology needs, which must be nationally determined	Yes	
	• Technology support received	Yes	

Abbreviations: BUR = biennial update report, GCF = Green Climate Fund, GEF = Global Environment Facility.

C. Technical analysis of the information reported

19. The technical analysis referred to in paragraph 7(b) above aims to, without engaging in discussion on the appropriateness of these actions, increase transparency of mitigation actions and their effects. Accordingly, the technical analysis focused on the transparency of information reported in BURs.

20. In addition to covering the information in the BUR and any additional technical information provided by the Party concerned, the technical analysis also focused, in relation

to information reported on national GHG inventories, on the consistency of the methods used for developing those inventories with the appropriate methods developed by the Intergovernmental Panel on Climate Change (IPCC) and referred to in the UNFCCC reporting guidelines on BURs. The results of the technical analysis are presented in the remainder of the chapter.

1. Information on national circumstances and institutional arrangements relevant to the preparation of national communications on a continuous basis

21. As per the scope defined in decision 2/CP.17, annex III, paragraph 2, the BURs should provide an update to information contained in the most recently submitted national communication, including, among other things, information on national circumstances and institutional arrangements relevant to the preparation of national communications on a continuous basis. For national communications, non-Annex I Parties report national circumstances following reporting guidance contained in decision 17/CP.8, annex, paragraphs 3–5.

22. In accordance with decision 17/CP.8, annex, paragraph 3, Tunisia, in its BUR, reported the following information on national circumstances: demographic trends, economic and political development, energy generation and demand, and vulnerability to climate change. As encouraged in decision 17/CP.8, annex, paragraph 4, Tunisia provided summaries of relevant information regarding its national circumstances in tabular form and also in graphical form to illustrate the trends in the national circumstances indicators. This information transparently describes the trends in national circumstances, in particular, the population, economy, energy demand and energy production in Tunisia.

23. The information on national circumstances provides an overview of the relevant GHG emission drivers at the national level and facilitates the understanding of the information provided in the national GHG inventory as well as of the mitigation actions reported in the BUR. Information on the sectoral emission drivers in the industry, AFOLU and waste sectors is provided in section 9 of the BUR ("Mitigation actions in sectors other than energy"). The TTE notes that, while the information is presented transparently, presenting this information in the section on national circumstances would give a more complete overview.

24. Tunisia, in its first BUR, described the institutional arrangements for the preparation of its BUR, in the context of the political developments since 2010, which have led to considerable changes in administrative structures. The restructuring process is ongoing. The description covers key aspects of the institutional arrangements such as the roles and responsibilities of the overall coordinating entity and the involvement and roles of other institutions and experts. The Ministry of Public Works, Spatial Planning and Sustainable Development had overall responsibility for the compilation of the BUR. Oversight of the preparation of the BUR was provided by a steering committee consisting of institutions and organizations working in the areas of GHG emissions and mitigation. Furthermore, the ministry set up a BUR management unit, which coordinated the various sectoral working groups compiling the GHG inventory as well as the information on mitigation actions.

25. In its first BUR, Tunisia also presented information on the institutional arrangements used for the compilation of the national GHG inventory, based on joint coordination by the focal point for climate change at the State Secretary for Sustainable Development and the National Energy Management Agency. During the technical analysis, Tunisia clarified that due to its national circumstances, the institutional structures for the preparation of national communications and BURs remain to be formally established and that the process for the formalization of such structures has not yet been initiated. However, the TTE considers that the information reported in the BUR and provided during the technical analysis by Tunisia

implies that the arrangements are already in place, and led to the publication of the national communication and the first BUR.

2. National greenhouse gas emissions by sources and removals by sinks

26. Tunisia reported, in its BUR, information on national GHG inventories covering GHG emissions and removals for the year 2010 only, using the *2006 IPCC Guidelines for National Greenhouse Gas Inventories* (hereinafter referred to as the 2006 IPCC Guidelines) and a country-specific methodology for estimating emissions from management of solid waste from the olive oil producing industry.

27. In response to technical clarification sought by the TTE during the technical analysis, Tunisia indicated that there is currently no plan to include in the next BUR a time series of GHG emissions. The TTE identified reporting time-series GHG inventories, as encouraged by decision 2/CP.17, annex III, paragraph 7, as an element to further enhance information reported on GHG emissions and removals, recognizing that it is not a mandatory reporting requirement. In its review of the draft summary report, Tunisia clarified that complete inventories were not undertaken for the period 1994–2010 and that historical data only exist for the energy (1990–2010) and industrial processes (2000–2009) sectors. Tunisia further indicated that the inclusion of the sectoral inventory data would have necessitated that the methodologies used, and particularly the emission factors, would be similar to those of 2010.

28. Tunisia indicated that data were collected from national official statistics. However, no clear information on arrangements and procedures for data collection and archiving is reported in the BUR. During the technical analysis, Tunisia explained the procedures for data collection and highlighted that there are not yet any established formal arrangements for data collection and archiving in Tunisia.

29. Tunisia emphasized that a major issue was related to the formalization of institutional arrangements for the preparation of GHG inventories. The TTE has identified the formalization of the institutional arrangements in order to ensure the sustainability of the GHG inventory process as an important area for capacity-building.

30. The TTE noted that Tunisia reports GHG emission and removal results for the majority of the IPCC categories. The tools used to perform the calculation of emissions and removals are not indicated in the BUR. During the technical analysis, in response to technical clarification sought by the TTE, Tunisia clarified that it has developed worksheets. Tunisia further clarified that the worksheets were the same as those from the IPCC Inventory Software implementing the 2006 IPCC Guidelines. Tunisia indicated, during the technical analysis, that it was not possible to provide the TTE with the worksheets because they are the property of the institutions that undertook the emission and removal calculations. The TTE noted that the transparency of reported information would have been further enhanced by providing clear information on methods, data, assumptions and emission factors used.

31. Tunisia has not reported information on uncertainty assessment and key category analysis. The TTE noted that the transparency of information reported on uncertainty assessment of GHG inventories could be enhanced by including such information in the BUR. As part of its feedback to the draft summary report, Tunisia provided the NIR as an additional document.

32. The tables included in annex 3A.2 to chapter 3 of the *Good Practice Guidance for Land Use, Land-Use Change and Forestry* and the sectoral report tables annexed to the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories* were not reported in the BUR. However, Tunisia clarified that the 2006 IPCC Guidelines were used to

generate similar information and provided its NIR as an additional source of information. It includes detailed information on the results and methodologies used.

33. Tunisia presents a table comparing emission/removal estimates for 1994, 2000 and 2010. However, this comparison shows estimates from inventories that were developed using different methods. The TTE notes that transparency of the information reported could be enhanced by providing further information on these methods.

34. Total emissions from the energy sector in Tunisia account for 27 megatonnes of carbon dioxide equivalent (Mt CO_2 eq), representing 84 per cent of the total net emissions of GHGs during the year 2010. The energy sector is the major source of GHG emissions in Tunisia with 69 per cent of total emissions for CO_2, 23 per cent for methane (CH_4) and 10 per cent for nitrous oxide (N_2O). Emissions from the energy sector were determined using two methods: the reference approach and the sectoral approach using the tier 1 methodology, but with country-specific CO_2 emission factors for natural gas, CH_4, N_2O and sulphur dioxide that were derived and used to improve the inventory. However, Tunisia does not report on the activity data, emission factors and methodologies used to estimate emissions reported in line with the 2006 IPCC Guidelines. As part of its feedback to the draft summary report, Tunisia provided the NIR as an additional document.

35. Emissions from the industrial processes sector are dominated by mineral production, which accounts for up to 87 per cent of the total emissions from this sector. A tier 3 methodology was used for estimation of the emissions from mineral production sources, but the methodology, the activity data or emission factors used are not provided. During the technical analysis, in response to technical clarification sought by the TTE about the methodology used, Tunisia confirmed that raw material composition data and plant-specific data were used for these estimations, both for cement and brick production. The TTE welcomes the use of a higher tier methodology by Tunisia for this key category, and encourages it to provide further description of the activity data, emission factors and methodology used in order to enhance transparency. As part of its feedback to the draft summary report, Tunisia provided the NIR as an additional document.

36. In its BUR, Tunisia estimates emissions of hydrofluorocarbons based on the Customs statistics of imports. Neither sulphur hexafluoride (SF_6) nor perfluorocarbons (PFCs) were imported in 2010 by Tunisia. In its review of the draft summary report, Tunisia clarified that the power company, Société Tunisienne d'Electricité et de Gaz (STEG), did not report any SF_6 use in 2010. The methodology, emission factors and activity data used are not reported in the BUR. The TTE noted that the transparency of information reported could be enhanced by including information on the estimated emissions from activities occurring in Tunisia, such as from the electricity sector, where SF_6 is used in equipment for the transmission and distribution of electricity, and on PFCs used in the electronics industries. In its review of the draft summary report, Tunisia provided the NIR as an additional document.

37. In 2010, removals from the agriculture, forestry and other land use (AFOLU) sector amounted to 13,610.9 Gg CO_2 eq, while emissions from this sector accounted for 11,219.5 Gg CO_2 eq. No time series are reported to assess the trends in emissions and removals.

38. Although Tunisia reports that it used the 2006 IPCC Guidelines to estimate emissions and removals from the AFOLU sector, only the inventory results for the IPCC categories are reported. The carbon pools, including living biomass, dead wood, litter and soils, and related methods and data used to estimate the changes in carbon stocks in the pools, are not provided. As part of its feedback to the draft summary report, Tunisia provided the NIR as an additional document.

39. The TTE noted that transparency of the information provided on the GHG inventory in the AFOLU sector could be enhanced by including information in the BUR on activity

data, emission factors and methods. As part of its feedback on the draft summary report, Tunisia provided the NIR as an additional document, containing such information.

40. Given that seven key categories, accounting for more than 40 per cent of the total emissions, were identified in the AFOLU sector, the TTE notes that transparency of the information reported on GHG inventories could be further enhanced by improving the data and methods used in this sector. As part of its feedback on the draft summary report, Tunisia provided the NIR as an additional document, containing such information.

41. Tunisia reports the category harvested wood products (HWP) in the AFOLU sector. According to the short description reported in the BUR, the TTE is of the view that the category that Tunisia has reported as HWP appears to be the biomass loss due to commercial felling that has to be accounted for in the gain–loss method used to estimate changes in carbon stocks in living biomass. The TTE has identified this as another potential area for capacity-building for Tunisia to facilitate reporting in its next BUR on carbon pools in line with the *Good Practice and Uncertainty Management in National Greenhouse Gas Inventories*. In its review of the draft summary report, Tunisia provided the NIR as a source of additional information.

42. Emissions from the waste sector were estimated based on the 2006 IPCC Guidelines using a tier 2 methodology for solid waste, a tier 1 methodology for industrial untreated wastewater and a tier 3 methodology for treated waters from water treatment stations. The TTE noted that information on the activity data and emission factors used for all types of waste is not reported in the BUR and that the transparency of the information reported could be further enhanced by including this information in the BUR. In its review of the draft summary report, Tunisia provided the NIR as an additional document, containing this information.

43. In Tunisia, olive oil production leads to significant quantities of waste, such as olive-mill wastewater. The TTE noted that Tunisia has developed a country-specific methodology to estimate emissions from this category, but transparency of the information reported could be further enhanced by including additional information in the BUR. In response to its review of the draft summary report, Tunisia clarified that this information is included in the NIR, which was submitted as an additional document.

44. During the consultation, Tunisia further reiterated that there is a separate comprehensive report, elaborating on all the methodologies used, which is to be made publicly available. The TTE noted that this report can contribute towards further enhancing the transparency of information on the GHG inventory reported in the BUR. In its review of the draft summary report, Tunisia clarified that the report is to be made publicly available.

3. Mitigation actions and their effects, including associated methodologies and assumptions

45. As indicated in table 2 above, Tunisia reported, in its BUR, information on mitigation actions and their effects.

46. The TTE commends Tunisia for its efforts to report transparently on the different reporting elements on mitigation actions as required by the UNFCCC reporting guidelines on BURs. The TTE noted that the mitigation actions reported in the BUR are a selection of the mitigation actions reported by Tunisia in its second national communication, which was officially submitted at the beginning of 2014. During the technical analysis, Tunisia clarified that, taking into account its national priorities and its decision to submit a concise report, it has decided to report in its BUR only its most important mitigation actions.

47. The TTE further notes that the information related to the estimated effect of the mitigation actions differs between the second national communication and the BUR.

During the technical analysis, Tunisia clarified that the information on mitigation actions reported in the second national communication was prepared by 2012, while that reported in the BUR was collected in a more participatory and concerted way with the different stakeholders involved, which allowed the data to be updated. Tunisia considers that the information in its BUR is more accurate than that reported in the second national communication, because further studies have been undertaken after the preparation of the second national communication. The TTE noted that transparency of the information reported could be enhanced if this information was included in the BUR.

48. In its BUR, Tunisia distinguishes between mitigation actions that have been put in place before 2014 and those that were planned from 2014 onwards.

49. Before 2014, Tunisia had mitigation actions in place related to energy efficiency and renewable energy, as well as two clean development mechanism (CDM) projects in the waste sector. Several actions in the AFOLU sector had GHG emission reduction benefits. The BUR describes the objectives of these measures and the specific activities put in place for their implementation. The effect on GHG emissions is reported in qualitative terms in the case of the energy sector (decoupling of economic growth and energy-related emissions), and in quantitative terms in the case of the AFOLU sector (by means of the GHG inventory data) and the waste sector (by means of the emission reductions realized from the two CDM projects).

50. The mitigation actions reported by Tunisia as existing or planned from 2014 onwards in different sectors, are described in the BUR in a more detailed manner than the mitigation actions put in place before 2014. Tunisia reports on three key measures in the energy production and consumption sector. These are further detailed in specific quantified sectoral and horizontal actions. Tunisia also formulated three priority NAMAs for the energy production and consumption sector (for the building sector, for the production of renewable energy and for the cement sector, including actions related to energy efficiency, renewable energy and process emissions), and these NAMAs include some of the specific actions described in the text of the BUR.

51. Tunisia provides a transparent description of the mitigation actions. It includes the nature of the action, sectors covered quantitative goals, including the time-horizon for the realization of these goals and the progress indicators. The TTE noted that partial information on methodologies and assumptions was provided. In its review of the draft summary report, Tunisia indicated that there are separate mitigation reports which contain almost all the information requested. The TTE noted that transparency of the information reported could be enhanced if such information is included in the BUR.

52. Tunisia includes estimates of avoided emissions over the 2015–2020 period, and for each individual year within this period, separately for the energy efficiency action plan and the renewable energy action plan. It was not clear to the TTE how Tunisia calculated these avoided emissions. During the technical analysis, Tunisia clarified that it estimated the impacts of the mitigation actions by estimating the impacts on specific activity data and the application of national or IPCC emission factors to these.

53. For the NAMAs, Tunisia made use of GHG projections under two scenarios: a 'business as usual' scenario, which was based on current practices and policies, and a policy scenario, which included the policies and actions envisaged under the NAMAs. Tunisia, however, did not specify in its BUR which methodology it used for the calculation of these projections and it did not provide information on key hypotheses used in these projections such as the expected evolution of the building stock, the expected cement production, etc. During the technical analysis, Tunisia clarified the basis for some of its hypotheses, such as those related to population growth, energy prices and expected structure of the gross domestic product, and that it developed its socioeconomic

development scenario by means of several stakeholder consultations. The BUR does not specify how the emission reduction effects of the three NAMAs relate to the general reduction effects estimated for the energy efficiency and renewable energy action plans. In its review of the draft summary report, Tunisia clarified that separate technical documents exist for the various NAMAs, which include this information. The TTE noted that the transparency of the information reported could be enhanced if such information is included in the BUR.

54. The descriptions of the three NAMAs provide detailed information on the steps that Tunisia envisages for their implementation. All the NAMAs are still in the preparing for implementation phase. For the mitigation actions described in the text of the BUR and not included in the NAMA proposals, Tunisia did not detail the steps envisaged for their implementation. The TTE noted that transparency of the information reported could be enhanced if this information is included in the BUR.

55. Tunisia has several registered CDM/programme of activities projects related to energy efficiency and renewable energy production. The BUR provides information related to some of these projects. The TTE noted that the transparency of information reported could have been enhanced by providing a complete overview of all the CDM projects registered and/or under development, including an indication of if and how their (potential) emission reductions have been included in the general estimation of the GHG emission reduction effects of the energy efficiency and renewable energy action plans.

56. The TTE noted that Tunisia provided estimates for the investment and transaction costs for the implementation of each NAMA and commends Tunisia for including this information.

57. Tunisia reports that it is developing one NAMA in the cement sector, which also includes activities related to the reduction of process emissions (see also the discussion on this NAMA in the energy production and consumption sector in paragraph 50 above). The first steps to implement this NAMA are being executed. Tunisia furthermore identifies measures that could reduce emissions related to other industrial processes and which could be the subject of the formulation of additional NAMAs in the future. This NAMA is transparently reported, including information on its objectives, the intervention areas included, the different steps envisaged to operationalize the NAMA, the progress achieved so far, the expected GHG emission reduction effects and the progress indicators.

58. For the AFOLU sector, Tunisia undertook a study to identify mitigation actions. The BUR provides a brief description of the mitigation options identified for the agriculture and forestry sectors. The description includes quantified objectives and an estimation of the GHG emission reduction effects based on the comparison of two policy scenarios with the 'business as usual' scenario. Tunisia provides a description of these scenarios, but does not provide details on the methodology used for the calculation of the GHG emissions under the different scenarios. During the technical analysis, Tunisia clarified that this was undertaken in the same way as for the other sectors, that is, an estimation of the impacts on activity data and the application of national or IPCC emission factors to these. Four types of identified interventions for the forestry sector are included in a NAMA developed for this sector. The BUR describes the objectives, progress indicators, estimated GHG emission reduction effects and steps envisaged. The NAMA will start its pilot phase when international finance can be found to supplement the domestic funds attributed to it. In its response to its review of the draft summary report, Tunisia clarified that separate documents containing the information highlighted by the TTE exist. The TTE noted that the transparency of the information reported could be enhanced if such information was reported in the BUR.

59. Tunisia has two functioning CDM projects in the solid waste sector. The emissions from these account for 80 per cent of the total emissions from landfilled waste. The BUR describes these projects and the emission reductions realized. Tunisia has prepared a NAMA in the field of wastewater treatment. The BUR describes the objectives, progress indicators, estimated GHG emission reduction effects, steps envisaged and finance needed for the implementation of this NAMA.

60. In general, the TTE considers that the transparency of the information provided on the mitigation actions could have been enhanced by describing in more detail the methodologies and hypotheses used for estimating the GHG emission reduction effects and by specifying how the estimated effects of the NAMAs relate to the overall mitigation effects presented.

4. Constraints and gaps, and related financial, technical and capacity-building needs, including a description of support needed and received

61. Section 9 of Tunisia's BUR reports on constraints and gaps, and related financial, technical and capacity-building needs.

62. The TTE noted that information on specific studies on technology transfer and the non-implementation of the technology needs assessment project for the estimation of technology needs, was not reported in the BUR. The transparency of the information reported could be enhanced by including this information in the BUR. Tunisia lists some of its capacity-building needs and gives explanations of the needs in different topics such as mitigation, the GHG inventory, MRV, etc.

63. With regard to institutional arrangements, Tunisia is preparing for the strengthening of capacities to the Agence Nationale de Maîtrise de l'Energie, which oversees the GHG inventory preparation in a sustainable and effective manner. The capacities of this agency have started with the support of Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) in the context of implementation of mitigation projects.

64. Finally, reporting on constraints and gaps in accordance with decision 2/CP.17, annex III, paragraph 14, with a focus on barriers, challenges and bottlenecks, during the preparation of the BUR would have given an important opportunity for Tunisia to highlight the support and its capacity-building needs in some topics such as institutional arrangements, technical requirements (e.g. preparation of the GHG inventory and preparation and implementation of mitigation actions), technology and a strategy for attracting finance.

5. Domestic measurement, reporting and verification

65. The TTE commends Tunisia for the detailed information provided on its domestic MRV.

66. The BUR describes the plans for setting up MRV systems for the five NAMAs. These plans have not yet been operationalized, but Tunisia has secured some international funding to start building the MRV system for the NAMA in the buildings sector, as well as in the cement sector. An MRV system is also being designed as a part of the NAMA "Plan solaire Tunisien".

67. The information provided specifies the intended approach for each of the steps individually (measuring, reporting and verification). During the technical analysis, Tunisia specified that the MRV approaches for the different NAMAs are designed in a coordinated way (e.g. by using the same socioeconomic scenarios). With respect to the general energy efficiency and renewable energy policies, Tunisia's Energy Agency has, since 2005, put a top-down information system into place to monitor and evaluate its energy policy and the

related avoided emissions. It is now in the process of setting up a bottom-up system that will allow the monitoring of individual actions. Finally, the BUR describes the MRV systems related to the CDM projects that are operational.

68. The TTE noted that Tunisia also reports on its system to monitor and follow up support received, and commends the Party for this.

D. Identification of capacity-building needs

69. In consultation with Tunisia, the TTE identified the following capacity-building needs related to the facilitation of the preparation of subsequent BURs and participation in ICA:

(a) Capacity-building needs identified to make the GHG inventory sustainable in three main areas: institutional arrangements, human resources and technical development, including:

(i) Institutionalizing the existing sectoral groups with allocation tasks and setting up an operational system to define a working plan for all experts and sectors among the different institutions and departments in Tunisia;

(ii) Identifying more sources of information and activity data for the preparation of the GHG inventory on a continuous basis by signing memorandums of understanding with various research institutes (such as the Centre Biotechnologique de Sfax and others), sectoral agencies and private companies to collect activity data, to generate country-specific emission factors, to develop country-specific methodologies and to collect more information on AFOLU, solid waste, wastewater, fluorinated gases (F-gases), etc.;

(iii) Strengthening its capacities in sectors such as industrial processes and product use, AFOLU and waste, and in cross-cutting issues such as uncertainty assessment, quality assurance/quality control and archiving, as part of the GHG inventory system;

(iv) Using the IPCC methodologies to estimate GHG emissions and reporting information in accordance with the 2006 IPCC Guidelines, in particular, when it comes to developing country-specific methodologies or emission factors;

(v) Conducting more studies and research to determine time-series activity data, to generate emission factors and assess uncertainties, and to determine specific and sectoral needs for its GHG inventory;

(b) Enhancing the capacity of national experts to identify and implement mitigation actions in sectors other than the energy sector;

(c) Enhancing the capacity to set up and implement an MRV system to operate on a permanent basis;

(d) Enhancing the capacity to report on constraints and gaps, and related financial, technical and capacity-building needs in the BUR.

III. Conclusions

70. The TTE concludes that:

(a) Most of the elements of information listed in paragraph 3(a) of the ICA guidelines are included in the first BUR of Tunisia;

(b) Tunisia's GHG inventory is elaborated for the energy, industrial processes, agriculture and forestry, and waste sectors, but there is opportunity to further enhance the transparency of information reported for other categories such as waste and F-gases;

(c) Tunisia provides a well-structured overview of its main mitigation actions in the different sectors and describes these according to the requirements in the UNFCCC reporting guidelines on BURs. The transparency of the information provided could have been enhanced by describing in more detail the methodologies and hypotheses used for estimating the GHG emission reduction effects and by specifying how the estimated effects of the NAMAs relate to the overall mitigation effects for the sectors concerned;

(d) Tunisia provides a well-structured overview on capacity-building needs on financial resources, technical support received and technology transfer, but did not report on constraints and gaps encountered in the preparation of the BUR. In order to enhance the transparency of the information provided, Tunisia needs more capacity-building in the understanding of the importance to report on constraints and gaps.

71. The TTE, in consultation with Tunisia, identified four capacity-building needs related to the facilitation of reporting in accordance with annex III to decision 2/CP.17 and to the participation in ICA in accordance with annex IV to decision 2/CP.17, taking into account Article 4, paragraph 3, of the Convention. Key capacity-building needs prioritized by Tunisia are summarized in chapter II.D above.

Annex

Documents and information used during the technical analysis

A. Reference documents

"Composition, modalities and procedures of the team of technical experts for undertaking the technical analysis of biennial update reports from Parties not included in Annex I to the Convention". Annex to decision 20/CP.19. Available at <http://unfccc.int/resource/docs/2013/cop19/eng/10a02.pdf#page=12>.

"Modalities and guidelines for international consultation and analysis". Annex IV to decision 2/CP.17. Available at <http://unfccc.int/resource/docs/2011/cop17/eng/09a01.pdf>.

"UNFCCC biennial update reporting guidelines for Parties not included in Annex I to the Convention". Annex III to decision 2/CP.17. Available at <http://unfccc.int/resource/docs/2011/cop17/eng/09a01.pdf>.

"Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention". Annex to decision 17/CP.8. Available at <http://unfccc.int/resource/docs/cop8/07a02.pdf#page=2>.

First biennial update report of Tunisia. Available at <http://unfccc.int/8722.php>.

Second national communication of Tunisia. Available at <http://unfccc.int/national_reports/non-annex_i_natcom/items/2979.php>.

B. Additional information provided by the Party

The following documents were provided by the Party in response to clarification sought during the technical analysis and in response to its review of the draft summary report:

Sahnoun H, Karray B and Serbaji MM. 2006. *Mecanismes de gestion des margines en Tunisie: Une vision multidimensionnelle de la problématique des margines à Sfax*, Conférence francophone ESRI, 11–12 Octobre 2006, Issy les Moulineaux, France. Available at <http://www.esrifrance.fr/sig2006/inst_olivier.html>.

Benyahia N and Zein K. 2003. *Analyse des problèmes de l'industrie de l'huile d'olive et solutions récemment développées. A special look at the waste problems of the olive oil industry and the latest viable solutions*. Second International Conference on Swiss Environmental Solutions for Emerging Countries (SESEC II), 28–29 January 2003, Lausanne, Switzerland. Available at <http://www.maison-huile.com/bib/problem.pdf>.

Ministère de l'Environnement et du Développement Durable. 2010. *Inventaire de Gaz à Effet de serre en Tunisie pour l'année 2010: Volume 1 - Rapport principal de présentation des résultats.*

Ministère de l'Environnement et du Développement Durable. 2010. *Inventaire de Gaz à Effet de serre en Tunisie pour l'année 2010: Volume 2 - Annexes techniques et méthodologiques.*